A Snapshot of Prostate Cancer

Incidence and Mortality Rate Trends

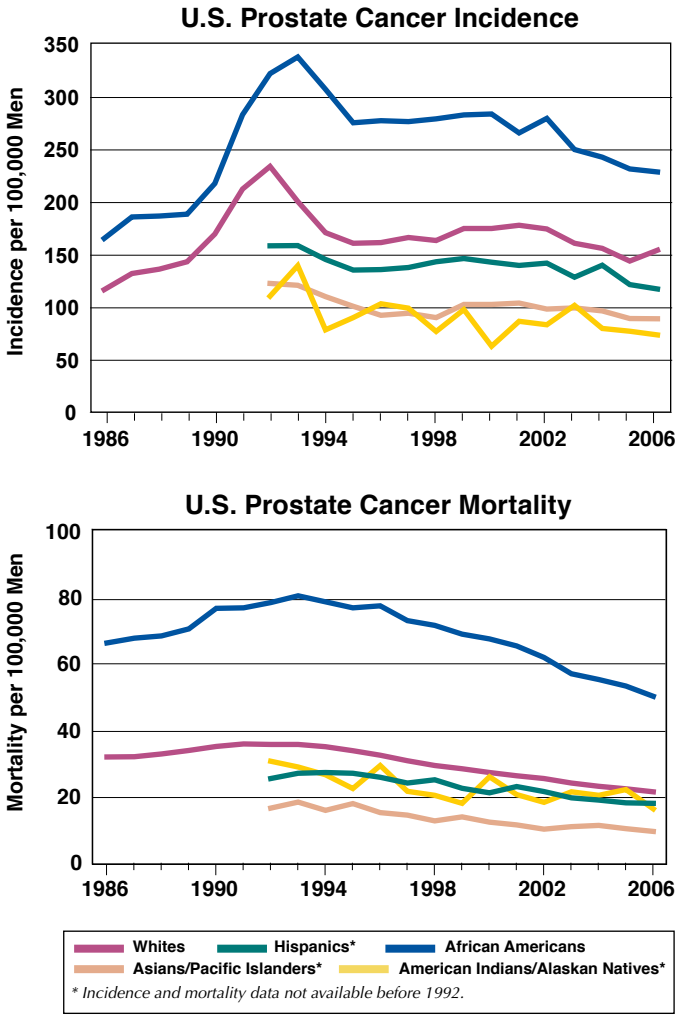
Prostate cancer is the most common cancer, excluding skin cancer, and the second leading cause of cancer-related death in men in the United States. African American men have higher incidence and at least double the mortality rates compared with men of other racial and ethnic groups.

Prostate cancer incidence rates rose dramatically in the late 1980s. This increase reflects improvements in detection and diagnosis through widespread use of prostate-specific antigen (PSA) testing, which received initial U.S. Food and Drug Administration approval in 1986. Since the early 1990s, prostate cancer incidence has been declining. Mortality rates for prostate cancer have also declined since the early 1990s.

It is estimated that approximately $8 billion[1] is spent on prostate cancer treatment each year in the United States.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov/.

[1]Cancer Trends Progress Report (http://progressreport.cancer.gov), in 2004 dollars, based on methods described in *Medical Care* 2002 Aug;40(8 Suppl):IV-104–17.

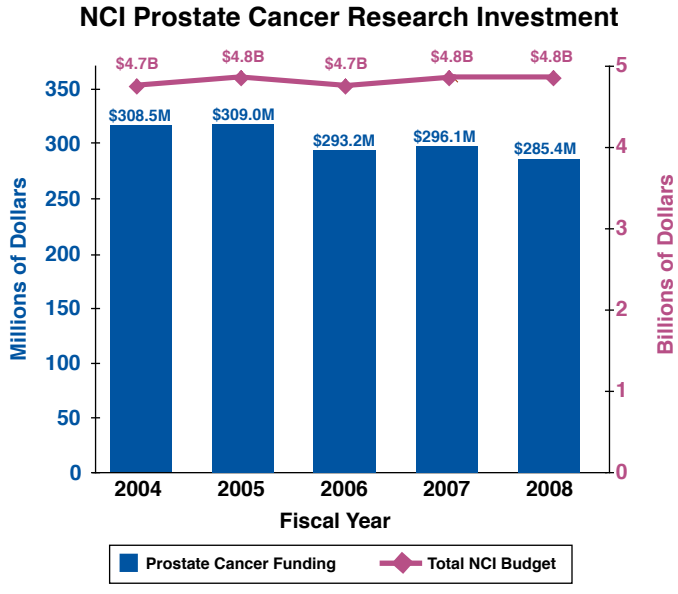


Trends in NCI Funding for Prostate Cancer Research

The National Cancer Institute's (NCI) investment[2] in prostate cancer research has decreased from $308.5 million in fiscal year 2004 to $285.4 million in fiscal year 2008.

Source: NCI Office of Budget and Finance (http://obf.cancer.gov).

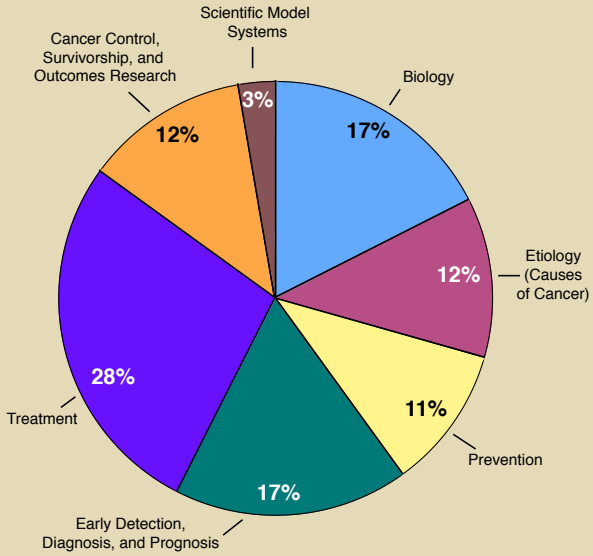
[2]The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see http://www.nih.gov/about/.



Examples of NCI Activities Relevant to Prostate Cancer

- Eleven prostate cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are moving results from the laboratory to the clinical setting. http://spores.nci.nih.gov/current/prostate/index.htm
- The **International Prostate Screening Trials Evaluation Group (IPSTEG)** is conducting randomized prostate cancer screening trials in the United States and several European countries. http://prevention.cancer.gov/programs-resources/groups/ed/programs/ipsteg
- The **Selenium and Vitamin E Cancer Prevention Trial (SELECT)** is monitoring the long-term effects of dietary supplements on prostate cancer, other cancers, and other diseases of men's aging. http://www.cancer.gov/clinicaltrials/digestpage/SELECT
- NCI investigators are collaborating with scientists from the American Cancer Society (ACS) to study the role of insulin resistance and chronic inflammation in prostate cancer in men participating in ACS's **Cancer Prevention Study (CPS)-II LifeLink Cohort**. http://dceg.cancer.gov/hreb/research/prostate
- The NCI intramural **Genitourinary Malignancies Faculty** brings together staff from National Institutes of Health branches and laboratories to develop better methods for prevention, diagnosis, and treatment of genitourinary malignancies. http://ccr.cancer.gov/faculties/faculty.asp?facid=131
- The **Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO)**, a large-scale clinical trial, is determining whether specific cancer-screening tests are reducing deaths from these cancers. http://dcp.cancer.gov/programs-resources/groups/ed/programs/plco
- The **Cancer Genetic Markers of Susceptibility (CGEMS)** program is identifying genetic changes that increase a person's risk of developing prostate or breast cancer. Scientists are using DNA from five large studies of prostate cancer and five large studies of breast cancer to "scan" the genome for common genetic differences between patients who have these cancers and those who do not have cancer. http://cgems.cancer.gov/index.asp
- The **What You Need to Know About™ Prostate Cancer** booklet provides information about prostate cancer diagnosis and staging, treatment options, follow up tests, and participating in research studies. Information specialists can also answer questions about cancer at 1-800-4-CANCER. http://www.cancer.gov/cancertopics/wyntk/prostate/page1
- The **Prostate Cancer Home Page** provides up-to-date information on prostate cancer treatment, prevention, genetics, causes, screening, testing, and other topics. http://www.cancer.gov/prostate

NCI Prostate Cancer Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2008

Data sources: NCI's Division of Extramural Activities and the NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio website at http://fundedresearch.cancer.gov

Selected Advances in Prostate Cancer Research

- Regular **annual screenings increase the number of diagnoses, but do not lead to fewer deaths** from prostate cancer. http://www.cancer.gov/ncicancerbulletin/032409/page2
- Researchers used **mathematical models to produce more accurate estimates** of the time by which prostate-specific antigen (PSA) screening advances prostate cancer diagnosis and of the overdiagnosis frequency associated with PSA screening. http://www.ncbi.nlm.nih.gov/pubmed/19276453
- Measuring levels of a compound called sarcosine in the tumor, blood, and urine could be used to **distinguish between benign tissue, localized disease, and metastatic prostate cancer**. http://www.cancer.gov/ncicancerbulletin/022409/page3
- Administering a **low continuous dose of an immune system booster (IL-2) is a safe strategy for vaccine-based therapies** to treat localized prostate cancer. http://www.cancer.gov/newscenter/pressreleases/MetronomicIL-2Gulley